

Exploring the Extreme			
2009 Mathematics			
Core Curriculum			
Iowa Mathematics			
Grades K-2			
Activity/Lesson	State	Standards	
Finding the Center of Gravity Using Rulers	IA	MA.K-2.4.2.1	Select appropriate measurement tools and units (standard and non-standard) to solve problems.
Finding the Center of Gravity Using Rulers	IA	MA.K-2.4.3.1	Understand the necessity for identical units (standard or non-standard) for accurate measurements.
Finding the Center of Gravity Using Rulers	IA	MA.K-2.4.3.8	Select appropriate measurement tools and units (standard and non-standard) to solve problems.
Exploring the Extreme			
2009 Mathematics			
Core Curriculum			
Iowa Mathematics			
Grades 3-5			
Activity/Lesson	State	Standards	
Finding the Center of Gravity Using Rulers	IA	MA.3-5.3.6.1	Select appropriate units, strategies, and tools to solve problems that involve estimating and measuring perimeter, area and volume.
Finding the Center of Gravity Using Rulers	IA	MA.3-5.3.6.5	Select and apply appropriate units, strategies and tools to solve problems that involve estimating and measuring weight, time and temperature.
Finding the Center of Gravity Using Plumb Lines	IA	MA.3-5.2.1.2	Make generalizations by reasoning about the structure of the pattern to determine if the patterns are nonnumeric growing, repeating, or multiplicative patterns.
Changing the Center of Gravity Using Moment Arms	IA	MA.3-5.3.7.1	Develop strategies for estimating measurements using appropriate benchmarks, both standard units such as 1 foot and nonstandard units such as the length a book.
Center of Gravity, Pitch, Yaw	IA	MA.3-5.1.3.3	Build facility and understand when estimation, mental computation or paper-and-pencil computations are appropriate in a given problem.
Center of Gravity, Pitch, Yaw	IA	MA.3-5.1.3.4	Select and apply appropriate strategies (mental computation, number sense and estimation) for estimating products and quotients or determining reasonableness of results, depending on the context and numbers involved.
Center of Gravity, Pitch, Yaw	IA	MA.3-5.1.6.6	Recognize and generate equivalent forms of commonly used fractions, decimals and percents.

Center of Gravity, Pitch, Yaw	IA	MA.3-5.3.7.1	Develop strategies for estimating measurements using appropriate benchmarks, both standard units such as 1 foot and nonstandard units such as the length a book.
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2009 Mathematics			
Core Curriculum			
Iowa Mathematics			
Grades 6-8			
Activity/Lesson	State	Standards	
Center of Gravity, Pitch, Yaw	IA	MA.6-8.1.2.5	Effectively compute with and solve problems using rational numbers, including negative numbers.
Fuel Efficiency	IA	MA.6-8.1.2.5	Effectively compute with and solve problems using rational numbers, including negative numbers.
Fuel Efficiency	IA	MA.6-8.2.1.1	Write mathematical expressions, equations, and formulas that correspond to given situations.
Fuel Efficiency	IA	MA.6-8.2.1.8	Use expressions, equations, and formulas to solve problems, and justify their solutions.
Fuel Efficiency	IA	MA.6-8.4.2.2	Select, create, explain, and interpret appropriate graphical representations for given data sets (bar graphs, circle graphs, line graphs, histograms, line plots, stem and leaf plots, box-and-whisker plots, scatterplots).